

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A data processing path selection method for use in a digital data processing system, said digital data processing system comprising a central processing unit and a graphics processor, said graphics processor comprising a transformation/lighting engine, said method comprising steps of:

receiving graphics data;

detecting a utilization rate of said central processing unit; and

selectively allocating said graphics data to either said central processing unit or said transformation/lighting engine of said graphics processor according to said utilization rate of said central processing unit.

2. (Original) The data processing path selection method according to claim 1 wherein said graphics data are vertex data generated by an application program.

3. (Original) The data processing path selection method according to claim 1 wherein said step of detecting said utilization rate of said central processing unit is performed by periodically sampling command flows of said central processing unit.

4. (Original) The data processing path selection method according to claim 1 wherein said step of allocating said graphics data to either said central processing unit or said transformation/lighting engine of said graphics processor is performed by the following sub-steps:

allocating said graphics data to said transformation/lighting engine of said graphics processor when said utilization rate of said central processing unit is equal to or greater than a threshold value; and

allocating said graphics data to said central processing unit when said utilization rate of said central processing unit is less than said threshold value.

5. (Original) The data processing path selection method according to claim 1 wherein said digital data processing system is a computer system.

6. (Currently Amended) A data processing path selection method for use in a digital data processing system, said digital data processing system comprising a central processing unit and a graphics processor, said graphics processor comprising a transformation/lighting engine, said method comprising steps of:

receiving vertex data;

detecting a utilization rate of said central processing unit;

allocating said vertex data to said transformation/lighting engine of said graphics processor when said utilization rate of said central processing unit is greater than a first threshold value; and

allocating said vertex data to said central processing unit rather than said transformation/lighting engine of said graphics processor when said utilization rate of said central processing unit is less than a second threshold value.

7. (Original) The data processing path selection method according to claim 6 wherein said vertex data are generated by an application program.

8. (Original) The data processing path selection method according to claim 6 wherein said first threshold value is identical to said second threshold value.

9. (Original) The data processing path selection method according to claim 6 wherein said step of detecting said utilization rate of said central processing unit is performed by periodically sampling command flows of said central processing unit.

10. (Original) The data processing path selection method according to claim 6 wherein said digital data processing system is a computer system.

11. (Currently Amended) A graphics processing system comprising;
a central processing unit;
a graphics processor comprising a transformation/lighting engine, and receiving graphics data generated by an application program; and
a path selection unit electrically connected to said central processing unit and said transformation/lighting engine of said graphics processor, and selectively allocating said graphics data to either said central processing unit or transformation/lighting engine of said graphics processor according to a utilization rate of said central processing unit.

12. (Original) The graphics processing system according to claim 11 wherein said path selection unit periodically samples command flows of said central processing unit to realize said utilization rate of said central processing unit.

13. (Original) The graphics processing system according to claim 11 wherein said path selection unit allocates said graphics data to said transformation/lighting engine of said graphics processor when said utilization rate of said central processing unit is equal to or greater than a threshold value, and allocates said graphics data to said central processing unit when said utilization rate of said central processing unit is less than said threshold value.

14. (Original) The graphics processing system according to claim 11 wherein said path selection unit is incorporated in a north bridge chip.

15. (Original) The graphics processing system according to claim 11 wherein said path selection unit is implemented by hardware.

16. (Original) The graphics processing system according to claim 11 wherein said path selection unit is implemented by firmware.

17. (Original) The graphics processing system according to claim 11 wherein said graphics data are vertex data.